

ART. XXII.—Notes on New Zealand Fishes: No. 4.

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Plates III–VI.

SEVERAL interesting fishes are herein dealt with. Two of them (*Mora pacifica* and *Melanostigma flaccidum*) are described as new, and provide the first occurrence of their respective genera in New Zealand seas. A second occurrence of *Scymnorhinus ticha* is noted. Foetal specimens of *Centrophorus plunketi* are described and figured, and similar treatment is accorded an example of the deal or unicorn fish, identified with *Lophotes cepedianus*.

16. *Centrophorus plunketi* Waite.

Plate III.

Centrophorus plunketi Waite, Trans. N.Z. Inst., vol. 42, 1910, p. 384, pl. xxxvii.

This species was first diagnosed four years ago from an example caught off Kaikoura, and in July last (1913) I received a second specimen from the same locality, by favour of Messrs. Nilsen Brothers.

This individual is slightly smaller than the previous one, being 1398 mm. in length. It also is a female, and is interesting from the fact that it was gravid, thirty-six young ones being obtained from the uteri. They are all of similar size, being 165 mm. in length, but had evidently not nearly reached their full foetal development, as the yolk-sac is large (66 mm. in diameter) and almost globular. At this stage the gills are still external, being apparent as red filaments, and, as usual, branchial filaments are also protruded through the spiracle. The predorsal spines do not at this stage show the protective knobs found in the foetus of *Squalus*,* though they may be a later foetal development.

In its ball-like form and short thick peduncle, the yolk-sac of *Centrophorus* agrees with *Squalus*, and differs greatly from that of *Galeus*, which I have described† as of peculiar shape, provided with a long umbilical cord, entering the sac towards the larger end.

The colour of the adult shark is uniform dark brown; it is interesting, therefore, to find that the foetal examples are white beneath, as with the majority of adult fishes and sharks, perhaps indicating that the uniform coloration of *Centrophorus* and *Scymnorhinus* is an acquired character.

* Waite, Rec. Aust. Mus., vol. 4, 1901, p. 33, pl. iv, fig. 2.

† Waite, *ibid.*, 1902, p. 175, fig. 19.

17. *Scymnorhinus licha* Bonnaterre.

Plate IV, fig. 1.

Squalus licha Bonnaterre, Tabl. Encycl. Ichth., 1788, p. 12.

Mr. A. Hamilton, Director of the Dominion Museum, Wellington, forwarded to me for determination, a shark which proves to be of this species. It was originally recorded as an inhabitant of New Zealand waters by the late T. J. Parker,* who identified an example taken near Otago Heads, in 1882, with *Scymnus licha*.

Though the specimen now to hand does not constitute a record for the Dominion, it is of sufficient interest to note as being only the second specimen known from our seas. Parker's example was a gravid female; ours is a male, and measures 1250 mm. in total length. Both agree in being of uniform dark-brown coloration.

A cast of the specimen was made for exhibition in the Canterbury Museum, and a photograph of the cast is reproduced on Plate IV, fig. 1. It should be noted that while the relative position of the fins, &c., is fairly well shown, the head appears much too short owing to the distortion produced by the angle subtended by the photographic lens.

An excellent figure, of which I have seen a tracing, will shortly be issued by Mr. A. R. McCulloch. The specimen selected for illustration is one of nine examples taken by the Federal trawler "Endeavour" in the Australian Bight.

18. *Mora pacifica* sp. nov.

Plate V.

D. 7, 44; A. 17, 18; P. 18; V. 6; C. 21 + 14; L. lat. 94; L. tr. 9 + 23.

Length of head, 4.0; height of body, 3.1; length of caudal, 5.5 in the length; diameter of eye, 3.2; length of snout, 5.2; and interorbital space, 4.8 in the head

Head flat; snout depressed; mouth oblique, the maxilla extending to beneath the third fourth of the orbit, upper jaw a little the longer; eye large, near to the upper profile; interorbital space broad and flat; a barbel below the chin.

Teeth.—Cardiform teeth in bands in the jaws and on the vomer; none on the palatines.

Fins.—The first dorsal commences three-fourths of an eye-diameter behind the head, or one-fourth its distance from the snout to the middle caudal rays; its anterior rays are twice as long as the eye; the fin is joined by membrane to the second fin, which extends posteriorly beyond the termination of the second anal. The anterior anal commences nearer the end of the middle caudal rays than the snout, and it is widely separated from the second anal. The pectoral is placed rather low, close behind the head, and its length equals its distance from the anterior margin of the orbit; its root is wholly in advance of the dorsal, and it reaches to below the third ray of the second fin. The ventral base lies wholly in advance of the pectoral; its first ray is produced as a bristle, its total length being equal to the post-orbital length of the head. The caudal is slightly forked, and its narrow low peduncle is but five-sixths the diameter of the eye in depth.

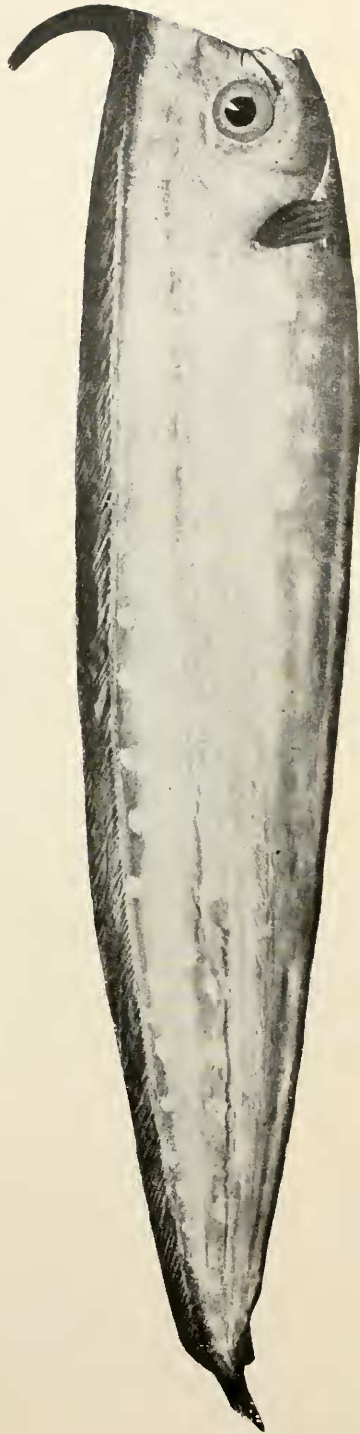
Scales.—The head and body entirely covered with moderate cycloid scales. The lateral line is complete; it arises behind the opercle, and, form-

* Parker, Trans. N.Z. Inst., vol. 15, 1883, p. 222.



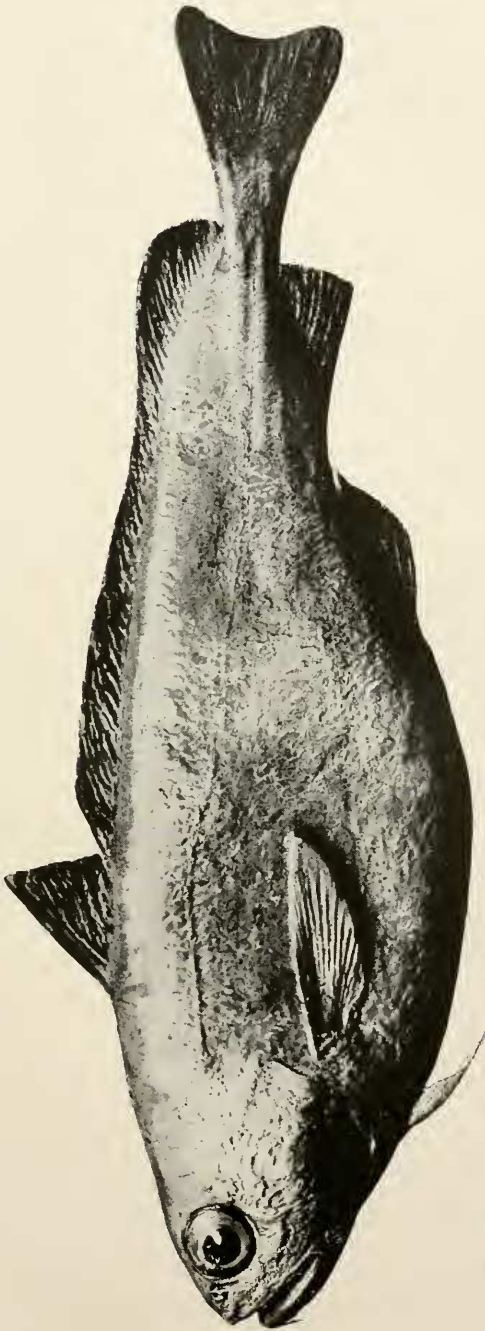
Edgar R. Waite, photo.]

FIG. 1.—SCYMNORHINUS LICHA Bonnatere.



Edgar R. Waite, photo.]

FIG. 2.—LOPHOTES CEPEDIANUS Giorna.



Edgar R. Waite, photo.

MORA PACIFICA Waite.